

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A pseudo-isothermal radial chemical reactor for catalytic reactions, comprising:

a substantially cylindrical shell (2) closed at the opposite ends by respective base plates; (3 and 4);

a reaction zone (8) in which comprising a respective catalytic bed (11) and a plurality of heat exchangers (22) placed in said respective catalytic bed; and reaction zone (8) are supported, characterised in that it comprises

at least one second further reaction zone (26) comprising a respective catalytic bed (29) and a plurality of heat exchangers (36) placed in said second reaction zone (26) respective catalytic bed of said second reaction zone, said first and said second reaction zone (8 and 26) being in fluid communication with each other.

2. (Currently amended) Chemical reactor according to claim 1, characterised in that wherein said first and said second reaction zone (8 and 26) are associated in series.

3. (Currently amended) Chemical reactor according to claim 2, characterised in that wherein the plurality of heat exchangers (22) of at least one of said reaction zones (8, 26) is in fluid communication with the outside.

4. (Currently amended) Chemical reactor according to claim 3, characterised in that wherein the pluralities of heat exchangers (22, 36) of both of said reaction zones (8, 26) are in fluid communication with each other.

5. (Currently amended) Chemical reactor according to claim 4, characterised in that wherein at least one exchanger of said pluralities of heat exchangers (22, 36) is plate-shaped, rectangular and boxed.

6. (Currently amended) Chemical reactor according to claim 5, ~~characterised in that~~ wherein said plurality of exchangers (22) is arranged radially, coaxially with respect to the axis (A-A) of the reactor.

7. (Currently amended) A method for optimising optimizing pseudo-isothermal catalytic reactions, comprising the steps of:

feeding reactants to a reaction zone (8) comprising a catalytic bed (11) and a plurality of heat exchangers (22) placed in said catalytic bed (11), ~~characterised in that it comprises the further steps of~~

collecting reactants and products coming from the reaction zone; (8);

conveying said reactants and products to a second reaction zone (26) comprising a respective catalytic bed (29) and a respective plurality of heat exchangers (36) placed in said catalytic bed; and (29);

feeding said reactants and products to said second reaction zone (26) and completing the reaction in said catalytic bed (29).